R06

{In Archive} Fw: Feb. 2008 Asbestos Hearing QFRs

Lynn Vendinello to: Ross Natoli 12/12/2008 10:26 AM
Cc: Sheila Canavan

History: This message has been forwarded.
Archive: This message is being viewed in an archive.

Ross, here are FINAL asbestos Qs and As for our book.

Lynn Vendinello
Branch Chief
Fibers and Organics Branch
National Program Chemicals Division
Office of Pollution Prevention and Toxics
202-566-0514
----- Forwarded by Lynn Vendinello/DC/USEPA/US on 12/12/2008 10:26 AM -----

Priscilla Flattery/DC/USEPA/US
12/12/2008 10:24 AM

To Lynn Vendinello/DC/USEPA/US@EPA, Maria Doa/DC/USEPA/US@EPA, Brian Symmes/DC/USEPA/US@EPA
cc
Subject Fw: Feb. 2008 Asbestos Hearing QFRs

here ya go

Priscilla Flattery
Chief of Staff, OPPT
(p) 202-564-2718
(f) 202-564-0575
Room 3410G, EPA East

----- Forwarded by Priscilla Flattery/DC/USEPA/US on 12/12/2008 10:24 AM -----

Christina Moody/DC/USEPA/US
12/12/2008 10:12 AM

To Priscilla Flattery/DC/USEPA/US@EPA
cc
Subject Feb. 2008 Asbestos Hearing QFRs

I was wrong...here they are -

Christina J. Moody
US Environmental Protection Agency
Office of Congressional
& Intergovernmental Relations
202.564.0260
202.501.1549 (fax)

Because of the size of the documents, I am attaching the QFRs into 3 attachments:

- transmittal letter, dated November 26, 2008
- Qs and As to Assistant Administrator James Gulliford
- Qs and As to Dr. Christopher Weis


AsbestosQFRs-AL-08-001-0788transmittal.pdf


AsbestosQFRs-AL-08-001-0788Gulliford.pdf


AsbestosQFRs-AL-08-001-0788Weis.pdf

{In Archive} Fw: Feb. 2008 Asbestos Hearing QFRs

Lynn Vendinello to: Johnh Smith, Tom Simons, Sheila Canavan, Ross Natoli — 01/06/2009 02:59 PM

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Lynn Vendinello
Branch Chief
Fibers and Organics Branch
National Program Chemicals Division
Office of Pollution Prevention and Toxics
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 2 6 2008

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

The Honorable John D. Dingell
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Dingell:

Please find enclosed responses to questions for the record posed by the Committee to James Gulliford, the Assistant Administrator of the U.S. Environmental Protection Agency's (EPA's) Office of Prevention, Pesticides, and Toxic Substances, and Dr. Christopher Weis, Senior Toxicologist in EPA's National Enforcement Investigations Center, from the February 28, 2008, hearing titled, "Legislative Hearing on S. 742 and Draft Legislation to Ban Asbestos in Products."

I appreciate your interest in this matter. If you have any further questions, please contact me, or your staff may call Carolyn Levine in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-1859.

Sincerely,

Christopher P. Bliley
Associate Administrator

Enclosure

cc: The Honorable Joe Barton, Ranking Member
Committee on Energy and Commerce

U.S. Environmental Protection Agency
Responses to Questions for the Record
February 28, 2008 Hearing on S. 742 and Draft Legislation to Ban Asbestos in Products
House Committee on Energy and Commerce
Subcommittee on Environment and Hazardous Materials

Questions and Responses from the Honorable John D. Dingell to James B. Gulliford

Question 1: *In late 1999, the Environmental Protection Agency (EPA) initiated investigation and cleanup activities related to asbestos contamination in Libby, MT. The source of the asbestos, a mine and processing facility, was owned and operated by W.R. Grace Co. for the manufacture, processing, and distribution in commerce of a number of products, including Zonolite attic insulation and MonoKote spray-on building foam. At this time, the EPA continues to conduct cleanup activities. A projected date for completion of the cleanup has not been announced. On March 11, 2008, EPA Region 8 and the Department of Justice announced that W.R. Grace had agreed to pay $250 million to reimburse the federal government for cost of investigations and cleanup of asbestos contamination in Libby, MT.*

a. Please state how much money EPA spent from December 1999 to April 1, 2008, on investigations, response, and remediation activities related to the asbestos contamination in Libby, Montana.

Response 1a: From December 1999 to April 1, 2008, EPA had spent approximately $182 million in direct site fund expenditures (approximately $27,000 of which are special account resources used in 2004) at the Libby Asbestos Superfund site.

b. Please state how much money EPA spent from December 1999 to April 1, 2008, on investigations, response and remediation activities related to the so-called "Libby sister sites" where ore from the W.R. Grace operations in Libby was sent for storage, processing and distribution in commerce. Please also identify the "Libby sister sites."

Response 1b: In early 2000, EPA began compiling a list of facilities that might have received asbestos-contaminated vermiculite ore from the Libby mine. To compile the list, we used shipping records and other information obtained from W.R. Grace, as well as historical information about vermiculite processing facilities from the Bureau of Mines and the U.S. Geological Survey. After coordinating with the U.S. Geological Survey to update and revise the list of facilities and eliminate duplicate entries, we identified 271 sites that may have received the contaminated ore. These sites are thought to have received a combined total of at least 6 million tons of the contaminated ore between 1923

and the early 1990s. These sites were located in 39 states, the District of Columbia, and Puerto Rico. The most sites were in California (28) and Texas (26). The site data that we collected shows that most (95 percent) of the vermiculite ore known to have been shipped from Libby between 1964 and 1990 went to facilities that converted it into commercial vermiculite through a process called "exfoliation" (expansion). Facilities which used the vermiculite as an additive to products without going through the exfoliation process (e.g., gypsum wallboard manufacturers) are generally referred to as non-exfoliation facilities. The list of sites identified to date is included below.

Based on a search of our Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database and regional responses to our inquiries on site costs for removal actions at vermiculite ore sites, EPA estimates it has spent approximately $18 million between December 1999 to April 1, 2008 on investigations, response and remediation activities in connection with facilities that received vermiculite ore from Libby. This estimate of $18 million represents a low range of estimated costs as there are ongoing site investigations, including a new removal action initiated in the summer of 2008 (Zonolite Co., Ellwood City, PA). There also remains the potential for additional new removal actions.

List of Known Sites Receiving Libby Vermiculite Ore

1	Advance Coating Company	Non-Exfoliation	Depot Road	Westminster	MA	01473
1	California (Stucco) Products Corp	Non-Exfoliation	169 Waverly Street, Cambridge, MA (plant in Hingham)	Hingham	MA	02043
1	WRG/Zonolite	Exfoliation	62 Whittemore Ave	Cambridge	MA	02140
1	Zonolite Co/WR Grace	Exfoliation	Wemelco Way	Easthampton	MA	01027
1	Zonolite Co/WR Grace	Exfoliation	PO Box 117	Billerica	MA	01862
2	American Vermiculite Products Corp	Exfoliation	1- 41 Jacobus Avenue Tomkins Tidewater Terminal , Blg. # 35	South Kearney	NJ	07032
2	Celotex Corp.	Non-Exfoliation	1 River Rd	Edgewater	NJ	07020
2	Distillation Products Industries	Non-Exfoliation	2255 Mt. Read Blvd., Bldg. 308	Rochester	NY	14615
2	FE Schundler & Co, Inc	Exfoliation	45-15 Vernon Blvd	Long Island	NY	11101
2	FlintKote Co. (Currently Georgia Pacific Gypsum Corp,)	Non-Exfoliation	1101 South Front St.	Camden	NJ	08103
2	Garlok Sealing Technologies Inc.	Non-Exfoliation	1666 Division Street	Palmyra	NY	14522

Region	Vermiculite Site Name	Exfoliation Type	Address	City	State	Zip Code
2	Heemsoth-Kerner Corporation	Non-Exfoliation	595 River Road, c/o European Container Service	Edgewater	NJ	07020
2	Knowlton Specialty Paper Prod (also, F. Hyde & Co, and Filtration Sciences Corp.)	Non-Exfoliation	213 Factory St	Watertown	NY	13601
2	National Gypsum Company	Non-Exfoliation	325 Delaware Avenue	Buffalo	NY	14202
2	Paul Marsh Inc	Non-Exfoliation	654 Madison Ave	NY	NY	10021
2	Rapid Industrial Plastic	Non-Exfoliation	13 Linden Ave East	Jersey City	NJ	07305
2	Schundler Co	Exfoliation	150 Whitman Ave	Metuchen	NJ	08840
2	The Carborundum Co (Unifrax Corp.)	Exfoliation	1625 Buffalo Ave. (2351 Whirlpool St.)	Niagara Falls	NY	14303
2	U.S. Gypsum	Non-Exfoliation	561 Richmond Terrace	Staten Island	NY	10301
2	Venezuela Lines c/o Red Hook Marine Terminal	Non-Exfoliation	Foot of Hamilton Street	Brooklyn	NY	11231
2	Vermiculite Industrial Corp	Exfoliation	Gilligan St, Bldg 8 (Navy Area)	Port Newark	NJ	07114
2	Vermipeat, Ltd.	Non-Exfoliation	c/o Judson Sheldon Intl.,Port of Newark	Newark	NJ	
2	W. R. Grace	Non-Exfoliation	Insular Hwy 845, Km 0.5 Cupey Bajo	Rio Piedras	PR	00926
2	Wards Natural Science Establishment Inc.	Non-Exfoliation	P.O. Box 1712	Rochester	NY	14692
2	Zonolite Co/WR Grace	Exfoliation	35 Industrial Drive	Hamilton Township	NJ	08619
2	Zonolite Co/WR Grace	Exfoliation	226 Water Street	Albany	NY	12207
2	Zonolite Co/WR Grace	Exfoliation	One Clay St	Utica	NY	13501
2	Zonolite Co/WRG	Exfoliation	Dunn Road	Brutus	NY	13166
3	Allied Chemical Dye (possibly Honeywell/Allied Signal/Celotex Corp)	Non-Exfoliation	3600 Grays Ferry Ave	Philadelphia	PA	19146
3	Bestwall/LaFarge Gypsum	Non-Exfoliation	Terminal Drive	Port of Wilmington	DE	19801
3	Celotex Corporation	Non-Exfoliation	State Route #92	Harding	PA	19146
3	Certainteed Corp.	Non-	All Power Rd	Conshohocken	PA	19428

Region	Vermiculite Site Name	Facility Type	Address	City	State	Zip Code
		Exfoliation				
3	Harbison-Walker Refractories Co	Exfoliation	600 Bigler Rd	Clearfield	PA	16830
3	Hyzer and Lewellen	Exfoliation	662 Belmont Ave	Southampton	PA	18966
3	J.P. Austin (A-Tops Mfg)	Exfoliation	1060 24th St	Beaver Falls	PA	15010
3	Onduline-USA (aka NuLine Industries)	Non-Exfoliation	4900 Ondura Road	Fredericksburg	VA	22407
3	Planttabbs Corp.	Non-Exfoliation	Aylesbury Road	Timonium	MD	21093
3	Therm-o-Rock/Allied Block Chemical, Inc	Exfoliation	1 Pine St	New Eagle	PA	15067
3	U.S. Steel/Duquesne Works	Non-Exfoliation	Route 837	Duquesne	PA	15110
3	U.S. Steel/Fairless Works	Non-Exfoliation	1 Fairless Works	Fairless Hills	PA	19030
3	Vermiculite Products Co	Non-Exfoliation	631 Equitable Bldg	Baltimore	MD	21202
3	Vermiculite Products Co/WR Grace	Exfoliation	1911 Kenilworth Ave NE	Washington, DC (also, Kenilworth/Beaver Heights, MD)	DC	20019
3	Virginia Vermiculite Mine	Non-Exfoliation	14093 Louisa Rd	Louisa	VA	23093
3	W. R. Grace Baltimore	Non-Exfoliation	c/o U.S. Lines-American Argasy, Shed 31, Dundalk Dock Marine Terminal 2700 Broening Highway	Baltimore	MD	21224
3	W. R. Grace Const Prod Div	Non-Exfoliation	c/o SS McLean, Sea Girt Terminal 2600 Broening Highway	Baltimore	MD	21224
3	W. R. Grace Const Prod Div	Non-Exfoliation	c/o SS Atlantic Sega, Shed 8, Dundalk Marine Terminal 2700 Broening Highway	Baltimore	MD	21224
3	Zonolite Co/WR Grace	Exfoliation	23rd & PA RR	Pittsburgh (Sharpsburg)	PA	15215
3	Zonolite Co/WR Grace	Exfoliation	12th & Factory St	Ellwood City	PA	16117
3	Zonolite Co/WR Grace	Exfoliation	12340 Conway Rd	Beltsville (Muirkirk)	MD	20705
3	Zonolite Co/WRGrace	Exfoliation	202 E Cherry St	New Castle	PA	16102
4	American Vermiculite Co.	Non-Exfoliation		Roan Mountain	TN	37687

4	American Vermiculite Minerals Incorporated	Exfoliation		Spruce Pine	NC	28777
4	Anitox Corp	Exfoliation	955 Hurricane Shoals Rd (or 1855 Anitox Rd, Buford?)	Lawrenceville	GA	30043
4	Anitox Corp	Exfoliation	1855 Anitox Rd	Buford	GA	30519
4	Bestwall Gypsum/Georgia Pacific	Non-Exfoliation	1 Union St	Brunswick	GA	31520
4	Carolina Vermiculite Div, VA Vermiculite	Non-Exfoliation	255 River Farm Road	Woodruff	SC	29388
4	Carolina Wholesale Florist	Non-Exfoliation	3015 Beechtree Dr	Sanford	NC	27330
4	Jim Walter Research Group	Non-Exfoliation	10301 Ninth St N	St Petersburg	FL	33716
4	P.B. Lassiter, Babcock& Wilcox Co. Thermal Ceramics Old Savannah Company	Non-Exfoliation	2102 Old Savannah Rd	Augusta	GA	30906
4	Palmetto Vermiculite Co/Enoree Minerals	Exfoliation	13101 Hwy 221	Woodruff	SC	29388
4	Patterson Vermiculite Co	Non-Exfoliation	1302 Patterson Rd	Enoree	SC	29335
4	Raybestos Manhattan	Non-Exfoliation	O'Hear Ave and Grace St	N. Charleston	SC	29406
4	Robert Smith Co	Non-Exfoliation		Dyer	TN	38330
4	Robert Smith Company	Non-Exfoliation	925 North 28th St	Birmingham	AL	35203
4	Southern Vermiculite	Exfoliation			NC	28734
4	Southern Zonolite Co/WR Grace	Exfoliation	1530 E Adams St	Jacksonville	FL	32202
4	Southern Zonolite Co/WR Grace	Exfoliation	2800 5th Ave S	Birmingham	AL	35233
4	Southern Zonolite/Verilite Co.	Exfoliation	6211 N 56th St.	Tampa	FL	33610
4	Temple Gypsum	Non-Exfoliation		Memphis	TN	
4	US Steel Corp	Non-Exfoliation	5700 Valley Rd	Fairfield	AL	35604
4	US Steel Corp Ensley Blast Furnace	Non-Exfoliation		Ensley	AL	
4	Verilite/Schmeizer Sales	Exfoliation	3401 E 3rd Ave	Tampa	FL	33605

Region	Facility/Plant	Facility Type	Address	City	State	Zip Code
4	WR Grace	Exfoliation	26383 Hwy. 221	Enoree	SC	29335
4	WR Grace	Exfoliation	1050 SE 5th St	Hialeah	FL	33010
4	WR Grace (Schmeizer Sales)	Exfoliation	Hannah Ave	Tampa	FL	33610
4	WRG	Exfoliation	Box 546	Savannah	GA	
4	Zonolite Co/WR Grace	Exfoliation	830 Hwy 25 Bypass	Traveller's Rest	SC	19690
4	Zonolite Co/WR Grace	Exfoliation	1701 Prospect St	High Point	NC	27260
4	Zonolite Co/WR Grace	Exfoliation	1167 Zonolite Pl NE	Atlanta	GA	30340
4	Zonolite Co/WR Grace	Exfoliation	1200 NW 15th Ave	Pompano Beach	FL	33069
4	Zonolite Co/WR Grace	Exfoliation	35th and 3rd Ave (3401 N. 3rd Ave)	Tampa	FL	33605
4	Zonolite Co/WR Grace	Exfoliation	2601 Commerce Blvd	Irondale	AL	35210
4	Zonolite Co/WR Grace	Exfoliation	4061 Powell Ave	Nashville	TN	37204
4	Zonolite Co/WR Grace Wilder Plant	Exfoliation	112 North St	Wilder	KY	41071
4	Zonolite Co/WRGrace/Seaboard Vermiculite	Exfoliation	1700 NW 1st Court	Boca Raton	FL	33432
5	3-M	Non-Exfoliation	1050 Hazel St, Bldg 410 Dock 91-105	St Paul	MN	55119
5	3-M, Chemolite,	Non-Exfoliation	Building 17P County Rd 19	Cottage Grove	MN	55133
5	Al-Par Peat Co	Non-Exfoliation	5900 Henderson Rd,	Elsie	MI	48831
5	American Can Co. Research Center	Non-Exfoliation	433 N. Northwest Hwy.	Barrington	IL	60010
5	Bestwall Gypsum	Non-Exfoliation	68 Baker Blvd	Akron	OH	44301
5	Bestwall Gypsum	Non-Exfoliation	619 College Ave	Grand Rapids	MI	49501
5	BF Nelson Mfg	Exfoliation	401 Main St, NE	Minneapolis	MN	55413
5	BIMAC	Non-Exfoliation	345 E. Main St	Milan	MI	48160
5	Carboline Co. Distribution Center	Non-Exfoliation	2162 Heller Road,	Alpha	OH	45301
5	Celotex Corp	Non-Exfoliation	795 S. Plasterbed Rd, PO Box 280 Old Rte 2 East	Port Clinton	OH	43452
5	Certain Teed Prod/ Diversified Insulation Twin Cities Wholesale Supply	Exfoliation	459 Harding St NE	Minneapolis	MN	55413
5	Cleveland Builders	Non-	1276 W 3rd St / 2146	Cleveland	OH	44113

Region	Name	Type	Address	City	State	Zip Code
	Supply Co/ Cleveland Gypsum Co. Perlite Plant	Exfoliation	West third St.			
5	Dearborn Chem	Non-Exfoliation	300 Genesee St	Lake Zurich	IL	60047
5	Dr. Tim Johnson, Minnesota Mining & Mfg., Co.	Non-Exfoliation	Building 53-3 367 Grove Street	St Paul	MN	55101
5	Dynamic Air Inc.	Non-Exfoliation	(c/o Vern Huballa) 1125 Willow Lake Blvd	St Paul	MN	55110
5	Eli Lilly Co.	Non-Exfoliation	K 406 Bldg 333, 1355 S White Rd.	Indianapolis	IN	46226
5	Exomet/Examet	Non-Exfoliation	Hwy 585	Smithville	OH	
5	FE Schundler & Co	Exfoliation	504 Railroad St	Joliet	IL	60436
5	FE Schundler & Co/Mica Pellets, Inc	Exfoliation	1008 Oak St	De Kalb	IL	60115
5	General Mills	Non-Exfoliation	1 General Mills Blvd	Minneapolis	MN	
5	GM Tech Center	Non-Exfoliation	E 12 Mile & Mound Rds	Warren	MI	48091
5	Gold Bond Bldg Prod/National Gypsum	Non-Exfoliation	U.S. Highway No 50	Shoals	IN	47581
5	Grand Rapids Gypsum	Non-Exfoliation	PO Box 1672 or 7440 Clyde Park Ave	Grand Rapids	MI	49501
5	H.B. Fuller Co	Non-Exfoliation	2727 Kinney Ave NW	Grand Rapids	MI	49544
5	Inland Steel Corp	Non-Exfoliation	2621 W 15th Place	Chicago	IL	60608
5	International Vermiculite Co/Thermic Refractories/Thermal Ceramics	Exfoliation	115 E Mound St	Girard	IL	62640
5	Kalo Innoculant Co	Non-Exfoliation	525 Kentucky St	Quincy	IL	62301
5	Koos, Inc	Exfoliation	4500 13th Court	Kenosha	WI	53140
5	Koos, Inc	Exfoliation	2000 DeKovan Ave	Racine	WI	53403
5	Loyd. A. Fry Roofing/Owens Corning	Non-Exfoliation	5824 Archer Road	Summit	IL	60501
5	MacArthur Co	Exfoliation	936 Raymond Ave	St Paul	MN	55114
5	Midwest Rubber	Non-Exfoliation	745 Norton Ave	Barberton	OH	44203

5	Nawrocki Insulation Inc.	Non-Exfoliation		Minneapolis	MN	
5	Net Ocean c/o Freight A-Ranger	Non-Exfoliation	5500 West 47th Street	Chicago	IL	60638
5	NForcer (Zonolite Co/WR Grace)	Exfoliation	14300 Henn St	Dearborn	MI	48120
5	O.M. Scott Assoc Co, Inc.	Exfoliation	14111 Scottslawn Rd	Marysville	OH	43040
5	P&H, Inc.	Non-Exfoliation			MN	
5	Paxam Corp.	Non-Exfoliation	1320 SW Monarch	Peoria	IL	61602
5	Perfect Seal/Bemis Corp	Non-Exfoliation		Mankato	MN	
5	PVP Industries, Inc.	Exfoliation	Box 129 9819 Penniman Rd	N Bloomfield	OH	44450
5	Steel Services	Non-Exfoliation	11426 S Perry St	Chicago	IL	60628
5	Strong-Lite Products Corp	Exfoliation	444 Shipyard Rd	Seneca	IL	61360
5	Swift & Co Agri Chem Division	Non-Exfoliation	150 Marble Street	Calumet City	IL	60409
5	Topex Co.	Non-Exfoliation	2516 W 3rd St	Cleveland	OH	44111
5	U. S. Gypsum Co	Non-Exfoliation	121 Lake St	Gypsum	OH	43433
5	U. S. Gypsum Co.	Non-Exfoliation	Willow Valley or State Road 650?	Shoals	IN	47581
5	U.S. Gypsum Co.	Non-Exfoliation	301 Riley Rd/ 3501 Canal St	East Chicago	IN	46312
5	U.S. Gypsum Company	Non-Exfoliation	2 Division St	River Rouge	MI	48218
5	U.S. Steel Corp.	Non-Exfoliation	1 N Broadway	Gary	IN	46402
5	U.S. Steel Corp. (South Works)	Non-Exfoliation	3426 E 89 St	Chicago	IL	60617
5	Van Packer/Flintkote Co (also as Voluntary Purchasing Co.)	Non-Exfoliation	1 Mill St	Buda	IL	61314
5	Vermiculite Indust Corp	Exfoliation	PO Box 11999, Pittsburgh, PA 15228 E. Taggart St. (Plant: WR Grace, E. Palestine, OH)	E Palestine	OH	44413
5	W. R. Grace	Exfoliation	12345 S Marshfield	Calumet Park	IL	60827

5	W. R. Grace/Const Products Division	Exfoliation	Grand Ave District Yard	Milwaukee	WI	53213
5	W.L. Spencer Mfg., Corp.	Non-Exfoliation	1693 N Water St	Milwaukee	WI	53202
5	Western Mineral Products (WRG)	Exfoliation	1720 Madison St NE	Minneapolis	MN	55413
5	Western Mineral Products Co (WRG)	Exfoliation	525 W Oregon St	Milwaukee	WI	53204
5	Wormald International	Non-Exfoliation	111 Muskin Drive	Walkerton	IN	46574
5	Wyodak Chem Co.	Exfoliation	4600 E 71st St	Cleveland	OH	44125
5	Zonolite Co/WR Grace	Exfoliation	603 Fenton Lane W	West Chicago	IL	60185
5	Zonolite/WR Grace	Non-Exfoliation	4725 Olson Memorial Hwy	Golden Valley	MN	55422
6	Almasol Corp.	Non-Exfoliation	1628 Rogers Road	Fort Worth	TX	76107
6	American Gypsum	Non-Exfoliation	1000 N HIll Rd	Bernalillo	NM	87004
6	American Gypsum Co/Centex	Non-Exfoliation	7715 Tiburon St	Albuquerque	NM	87103
6	American Perlite Co.	Non-Exfoliation	128 Railroad Ave	Gilliam	LA	71029
6	Bestwall Gypsum	Non-Exfoliation	7800 Almonaster Rd	New Orleans	LA	70126
6	C. Gartenmann & Co. c/o GF Tujague, Inc.(M G Maher)	Non-Exfoliation	365 Canal St	New Orleans	LA	70112
6	Celotex Corp./Three Rivers/Southwest Gypsum	Non-Exfoliation	5 miles SW of Hamlin	Hamlin	TX	79520
6	CMI Texas, Inc.	Non-Exfoliation	2600 E. San Jose St.	Laredo	TX	78043
6	Cron Chemical	Non-Exfoliation	6015 Murphy Ave	Houston	TX	77033
6	Diercks Forests Inc. (Weyerhauser)	Non-Exfoliation	794 Hwy 369 N	Nashville	AR	71852
6	European Vermiculite Corp. c/o Southern Stevedoring Company	Non-Exfoliation	7325 S Harbor Dr	Houston	TX	77011
6	Filter Media Co	Exfoliation	W. 10 St	Reserve	LA	70084
6	Flintkote Company Eskota	Non-Exfoliation	FM 1856 at 120 on Eskota	Sweetwater	TX	79556
6	Georgia Pacific Corp/Bestwall Gypsum	Non-Exfoliation	Hwy 287	Quanah	TX	79252

6	Isolatek International	Exfoliation	3340 Bingle Rd	Houston	TX	77055
6	Material Aislantes	Non-Exfoliation	SA Marcella at Corpus Christi Rd	Laredo	TX	78040
6	National Gypsum Co	Non-Exfoliation	832 County Rd 311	Rotan	TX	79546
6	Republic Gypsum Company	Non-Exfoliation	Hwy 62 Box Drive C	Duke	OK	73532
6	Republic Gypsum/Housing/ Kaiser Co.	Non-Exfoliation	Interstate-25	Rosario	NM	
6	Scott's Co/Hyponex	Exfoliation	3713 Hwy 32 N	Hope	AR	71801
6	Solico, Inc	Exfoliation	5119 Edith Blvd NE	Albuquerque	NM	87107
6	Southern Mineralite Co/WR Grace	Exfoliation	2933 Dauphine St	New Orleans	LA	70117
6	Southwest Vermiculite Co	Non-Exfoliation	1212 13 St	Lubbock	TX	79401
6	Southwest Vermiculite Co	Exfoliation	1822 N First St	Albuquerque	NM	87102
6	Strong-Lite Products	Exfoliation	4418 Emmitt Sanders Rd	Pine Bluff	AR	71601
6	Temple Gypsum Company (c/o Customer Siding)	Non-Exfoliation	1000 North 7th St	West Memphis	AR	72301
6	Texas Gypsum	Non-Exfoliation		El Paso	TX	
6	Texas Gypsum Company	Non-Exfoliation	104 County Line Rd	Irving	TX	75061
6	Texas Lightweight Products	Exfoliation	117 N Britain Rd	Irving	TX	75060
6	Texas Vermiculite Co	Exfoliation	State Hwy 29	Burnet	TX	78611
6	Texas Vermiculite Co (WRG 1975)	Exfoliation	2651 Manila Rd	Dallas	TX	75212
6	Texas Vermiculite Co (WRG)	Exfoliation	354 Blue Star St	San Antonio	TX	78204
6	The Tri-Lite Corp	Exfoliation	2624 Link Rd	Houston	TX	77009
6	U.S. Gypsum	Non-Exfoliation	225 Regal Row	Dallas	TX	75247
6	U.S. Gypsum Co	Non-Exfoliation	1 USG Rd. E. Hwy 80	Sweetwater	TX	79556
6	U.S. Gypsum Company	Non-Exfoliation	Hwy 51a	Southard	OK	73770
6	U.S. Gypsum Company	Non-Exfoliation	1201 Mayo Shell Road	Galena Park	TX	77547

Region	Vermiculite Site Name	Site Type	Address	City	State	Zip Code
6	Universal Maritime Service/Sealand Terminal	Non-Exfoliation	919 E Barbours Cut Blvd	Laporte	TX	77571
6	Vermiculite Products, Inc	Exfoliation	3025 Maxroy St	Houston	TX	77008
6	Volite Co	Exfoliation	Box 122, N Hwy 16	Llano	TX	78643
6	Voluntary Purchasing Co.	Exfoliation	Highway 82 West	Bonham	TX	75418
6	WR Grace	Non-Exfoliation	225 Elmira	San Antonio	TX	78212
6	Zonolite Co/WR Grace	Exfoliation	4729 River Rd	New Orleans	LA	70121
6	Zonolite Co/WR Grace	Exfoliation	Dixie Rd	Little Rock	AR	72115
6	Zonolite Co/WR Grace/TX, OK Vermiculite	Exfoliation	200 N Wisconsin Ave	Oklahoma City	OK	73117
7	Celotex Corp.	Non-Exfoliation	2109 Quail Ave	Fort Dodge	IA	50501
7	Diversified Insulation/Shelter Shield/WRG	Exfoliation	4814 Fiber Lane	Wellsville	KS	66092
7	Dodson Manufacturing Co	Exfoliation	1463 Barwise St	Wichita	KS	67214
7	E.M. Peat Mfg., Co.	Non-Exfoliation	33 S 25th Street	Council Bluffs	IA	51501
7	Eagle-Picher Lead Co Insulation Division	Exfoliation	1220 NW Murphy Ave	Joplin	MO	64801
7	Georgia Pacific/Best Wall Gypsum Div	Non-Exfoliation	PO Box 187	Blue Rapids	KS	66411
7	Georgia Pacific/Bestwall	Non-Exfoliation	2374 Mill Rd	Fort Dodge	IA	50501
7	J.J. Brouk	Exfoliation	1367 S Kingshighway Blvd	St Louis	MO	63110
7	M.A. Bell	Non-Exfoliation	217 Lombard St	St Louis	MO	63102
7	Mallinckrodt Chemical Co.	Non-Exfoliation	123 Destrehan St	St Louis	MO	63107
7	National Gypsum	Non-Exfoliation	2829 180th St	Fort Dodge	IA	50501
7	U.S. Gypsum Co, Sperry	Non-Exfoliation	13425 210th St	Sperry	IA	52650
7	Western Mineral Products Co/Douglas	Exfoliation	3520 South I Street	Omaha	NE	68107
7	Zonolite Co/WR Grace	Exfoliation	5100 Manchester Ave	St Louis	MO	63110
7	Zonolite Co/WR Grace	Exfoliation	515 Madison St	Kansas City	MO	64105

8	Basin Electric Corp.	Non-Exfoliation	3901 Highway 200 A	Stanton	ND	58571
8	Big Horn Gypsum Co/Celotex	Non-Exfoliation	P.O. Box 590; 88 Road 2AB	Cody	WY	82414
8	Colorado Kansas Seed Co.	Non-Exfoliation	401 E. Beech St.	Lamar	CO	81052
8	Flintkote/Fireboard Paper/Johns-Manville	Non-Exfoliation	Hwy 120 at Adobe Siding	Florence	CO	81226
8	Georgia Pacific/Bestwall	Non-Exfoliation	200 South State St	Sigurd	UT	84657
8	Georgia Pacific/Bestwall Gypsum Div	Non-Exfoliation	2120 Lane 16 1/2	Lovell/Himes	WY	82431
8	Herbert Palmer	Non-Exfoliation	Route 3	Thermopolis	WY	82443
8	Insuplast, Inc	Non-Exfoliation	1st & Water Street	Canon City	CO	81212
8	Intermountain Insulation Co	Exfoliation	733 West 800 South	Salt Lake City	UT	84101
8	International Vermiculite Co.	Non-Exfoliation	2401 East 40th Ave	Denver	CO	80205
8	Minnkota Power	Non-Exfoliation	Milton Young Power Station, 5 miles east and 3 miles south of Center, ND	Center	ND	58530
8	Moats' Residence	Non-Exfoliation	1308 Second Ave. NW	Great Falls	MT	59404
8	Robinson Insulation Co	Exfoliation	1771 19th Ave SW	Minot	ND	58701
8	Robinson Insulation Co	Exfoliation	12th St N and River Dr	Great Falls	MT	59401
8	U.S. Gypsum Co	Non-Exfoliation	81 N. State	Sigurd	UT	84657
8	U.S. Gypsum Company	Non-Exfoliation	Heath Star Route	Lewistown	MT	59457
8	Vermiculite Intermountain	Exfoliation	333 W 100 St	Salt Lake City	UT	84101
8	Western Mineral Products Co (WRG)	Exfoliation	111 S Navajo St	Denver	CO	80223
9	Adams & Co.	Non-Exfoliation	Spur 9177	Chino	CA	91710
9	Al-Lube Division of Far Best Corp.	Non-Exfoliation	928 Allen Ave	Glendale	CA	91201
9	Arabian American Oil	Exfoliation	22 Battery Street	San Francisco	CA	24111

	Site Name	Type	Address	City	State	Zip Code
9	Argo Seed Company	Non-Exfoliation	761 Sanburn Rd S	Salinas	CA	93905
9	Ari-Zonolite/Buster's Street Rods	Exfoliation	6960 52nd Ave	Glendale	AZ	
9	Big Horn Gypsum Co.	Non-Exfoliation		San Mateo	CA	94401
9	CA Zonolite/Divers Insul/WRG/Steeler Inc	Exfoliation	6851 Smith Ave	Newark	CA	94560
9	California Zonolite Co/WR Grace	Exfoliation	5440 San Fernando Rd	Los Angeles	CA	90039
9	California Zonolite Co/WR Grace	Exfoliation	208 Jibboom St	Sacramento	CA	95814
9	Domtar/Kaiser Gypsum America Inc.	Non-Exfoliation	1401 Water St	Long Beach	CA	90802
9	Domtar/Kaiser Gypsum Inc.	Non-Exfoliation	Willow Ave	Antioch	CA	94509
9	Flintkote Co, Gypsum Prod Div	Non-Exfoliation		Arden	NV	
9	Flintkote Co/Blue Diamond	Non-Exfoliation		Niles	CA	
9	Foseco	Non-Exfoliation	17 St & Rochester	Cucamonga	CA	91730
9	GE	Non-Exfoliation		San Bernardino	CA	
9	Germian's Seed Company	Non-Exfoliation	4820 East 50th Street	Los Angeles	CA	90058
9	H.B. Fuller Co.	Non-Exfoliation	57 S Linden Ave	San Francisco	CA	94102
9	James Hardie Gypsum	Non-Exfoliation	26300 La Alameda	Mission Viejo	CA	92691
9	La Habra Products, Inc	Exfoliation	1631 W Lincoln Ave	Anaheim	CA	92805
9	MV Inc., c/o Santa Fe	Non-Exfoliation		Richmond	CA	
9	National Gypsum/Gold Bond Bldg Prod	Non-Exfoliation	1850 W 8th St	Long Beach	CA	90813
9	National Gypsum/Gold Bond Bldg Prod	Non-Exfoliation	1040 Canal Blvd	Richmond	CA	94800
9	Pabco Gypsum/Johns-Manville/Fiberboard c/o Their Siding	Non-Exfoliation	1973 N Nellis Blvd	Las Vegas	NV	
9	Pabco/CA Gypsum Co./Fireboard Paper	Non-Exfoliation	37851 Cherry St	Newark	CA	94560
9	Pryor Giggey Co.	Non-Exfoliation	12393 Slavsen Ave	Whittier	CA	90606

Region	Vermiculite Site Name	Type	Address	City	State	Zip Code
9	Pryor Giggey Co.	Non-Exfoliation	10000 Santa Fe Springs Road	Santa Fe	CA	
9	Riley Ruminant Nutrient	Non-Exfoliation		Tucson	AZ	
9	Solomon's Mines/Diversified Insulation WRG	Exfoliation	4200 W Glenrosa Ave	Phoenix	AZ	85019
9	Southwest Grease Company	Non-Exfoliation	19530 South Alameda	Compton	CA	90221
9	Therm-o-Rock Ind	Exfoliation	6732 W Willis Rd	Chandler	AZ	85226
9	Three V Nursery c/o Santa Fe Railroad	Non-Exfoliation		Richmond	CA	
9	U.S. Gypsum Co	Non-Exfoliation	100 1st St	Gerlach/Empire	NV	89405
9	U.S. Gypsum Co.	Non-Exfoliation		Plaster City	CA	92269
9	U.S. Gypsum Company	Non-Exfoliation	9306 Sorensen Ave	Santa Fe Springs	CA	90670
9	Vermiculite of Hawaii Inc.	Exfoliation	842A Mapunpuna St	Honolulu	HI	96819
9	WRG/Diversified Insul.	Exfoliation	2502 S Garnsey St	Santa Ana	CA	92707
10	Domtar Gypsum Company	Non-Exfoliation	1240 Alexander Ave	Tacoma	WA	98421
10	Fibrous Glass Products, Inc.	Non-Exfoliation	3808 N Sullivan Rd	Spokane	WA	99216
10	Kaiser Gypsum	Non-Exfoliation	5931 East Margnaul Way S	Seattle	WA	98134
10	Supreme Perlite Co	Exfoliation	4600 North Suttle Rd	Portland	OR	97217
10	Uni-West	Non-Exfoliation	5 South Spokane St	Seattle	WA	98134
10	Vermiculite - NW, Inc (WR Grace)	Exfoliation	1318 Maple St	Spokane	WA	99201
10	Vermiculite NW, Inc (WR Grace)	Exfoliation	2303 N Harding Ave	Portland	OR	97227
10	Vermiculite-Norwest Inc.	Non-Exfoliation	P.O. Box A	Auburn	WA	98001
10	Western Industrial Supply	Non-Exfoliation	16300 SW 72nd Ave	Portland	OR	97223
10	WR Grace c/o Karl Schroff & Assoc	Non-Exfoliation		Seattle	WA	
10	X-Cell	Non-Exfoliation	5436 South Washington	Tacoma	WA	98409

Question 2: *Last year, a citizens' organization, the Asbestos Disease Awareness Organization (ADAO), tested a number of common household products. Asbestos was discovered in a number of the items tested, including a spackling compound and a children's toy. The children's toy was also tested by the State of Connecticut and found to contain asbestos. Connecticut took steps to remove the toy from store shelves in order to protect children from exposure. Information on ADAO's testing effort and results were sent to EPA last year. Please describe what actions, if any, EPA has taken since then to prevent children from being exposed to asbestos in the toy, as well as the other products tested by ADAO.*

Response 2: The particular children's product that ADAO highlighted was voluntarily pulled from the market after the group's report was publicized. The Consumer Product Safety Commission has the authority to recall consumer products where an unreasonable risk of injury exists. The Commission is aware of the reported findings and is reviewing the report.

Question 3: *The use of asbestos diaphragms in the manufacture of chlorine, caustic soda, and other chemicals produced by the chlor-alkali industry was developed in the late 1800's. Other manufacturing techniques that do not involve the use of asbestos have been developed since that time, but more than a dozen chlor-alkali facilities in the United States still rely on asbestos diaphragms. Please provide a list of United States facilities that still use asbestos diaphragms.*

For each of the listed facilities:

a. *Please indicate the total number of diaphragm production units at the facility, along with the number that use asbestos diaphragms vs. the number that have used an asbestos substitute or alternative type of diaphragm.*
b. *Please state the year the facility began operating.*

Response 3 a, b: At present, the only information available to EPA in connection with the questions posed here is Table 1 from the Chlorine Institute publication entitled Pamphlet 10, *North American Chlor-Alkali Plants and Production Reports – 2007* (attached separately). This Table does not provide all of the specific information requested, but it does provide information on the age of the chlorine plants in the U.S. and the type of cell technology used by the plants.

c. *Please list the number of pounds of asbestos released by each facility for each of the past three years, as reported pursuant to the Emergency Planning and Community Right To Know Act's Toxics Release Inventory.*

Response 3 c; See chart below:

Facility Name	Location	Primary NAICS Code	Asbestos Releases (Pounds)		
			2004	2005	2006
Olin Corporation	1638 Industrial Rd, McIntosh, AL, 36553	325181	N/A[1]	N/A[1]	N/A[1]
Occidental Chemicals Corp	6200 S. Ridge Rd. Wichita, KS 67215	325181	9795 lbs	12,770 lbs	12,000 lbs
Occidental Chemicals Corp	7377 Highway 3214 Convent, LA 70723	325181	14 lbs	14 lbs	11 lbs
Occidental Chemicals Corp	266 Highway 3142 Hahnville, LA	325181	200 lbs	652 lbs	531 lbs
Dow Chemical Co. Plaquemine	21255 LA Highway 1S Plaquemine, LA 70765	325199[2]	489,478 lbs	171,940 lbs	1,388,459 lbs
Georgia Gulf Chemicals & Vinyl LLC	26100 Highway 405 S, Plaquemine, LA 70764	325211	0	0	0
PPG Industries, Inc.	1300 PPG Drive, Westlake, LA 70669	325181	N/A[1]	N/A[1]	N/A[1]
Pioneer Americas LLC (known now as Olin)	8000 Lake Mead Pkwy, Henderson, NV 89015	325181	21,280 lbs	23,612 lbs	26,699 lbs
Occidental Chemicals Corp	4133 Highway 361 Gregory, TX	325199	0	0	0

[1] Filed a Form A certification in lieu of a Form R (release) report due to low amount of asbestos.
[2] Note that where primary NAICS code is not 325181, secondary NAICS code used to identify facility as chlor-alkali facility.

Occidental Chemicals Corp	4700 Buffalo Ave Niagara Falls, NY 14302	325181	N/A[1]	N/A[1]	N/A[1]
PPG Industries, Inc.	State Route 2 New Martinsville, WV 26155	325181	345 lbs	303 lbs	572 lbs
Oxy Vinyls LP La Porte VCM Plant	2400 Miller Cutoff Rd La Porte, TX 77571	325181	500 lbs	2,000 lbs	821 lbs

[1] Filed a Form A certification in lieu of a Form R (release) report due to low amount of asbestos.

[1] Note that where primary NAICS code is not 325181, secondary NAICS code used to identify facility as chlor-alkali facility

Question 4: *In 1989, EPA promulgated regulations that banned "new uses" of asbestos. In 1994, EPA issued technical amendments to these regulations clarifying that the ban on new uses of asbestos was not overturned by the 5th Circuit Court of Appeals opinion in Corrosion Proof Fittings v. EPA. Since that time, has EPA filed any administrative or judicial actions to enforce the "new uses" prohibition on asbestos? If the answer is yes, please provide a list of each action and summarize the resolution of the matter, including information on any penalties or injunctive relief obtained.*

Response 4: EPA has not filed any administrative or judicial actions concerning new uses of asbestos, as they are defined in the current EPA Asbestos Ban and Phaseout Rule.

Question 5: *CARB Method 435 - Asbestos in Serpentine Aggregate is identified as a historic conditional method by the EPA. Is it true that EPA's confidence in a method included in this category is based upon review of technical information, including but not limited to: field and laboratory validation studies, EPA understanding of the most significant quality assurance (QA) and quality control (QC) issues; and EPA confirmation that the method addresses these QA/AC issues in a manner sufficient to identify when the method may not be acquiring representative data? Is it also true that the method's QA/QC procedures are required as a condition of applicability?*

Response 5: The answer to both questions is yes.

CARB 435 is designated a historical conditional method by EPA's Air Program. EPA confidence in this category of methods is based upon review of various technical information including, but not limited to, field and laboratory validation studies; EPA understanding of the most significant quality assurance (QA) and quality control (QC) issues; and EPA confirmation that the method addresses these QA/QC issues sufficiently

to identify when the method may not be acquiring representative data. The method's QA/QC procedures are required as a condition of applicability.

Question 6: *Please identify each product or use that EPA attempted to ban or restrict under the 1989 EPA new-use regulations, and indicate whether those bans or restrictions remained in effect after the 5th Circuit Court of Appeals opinion in the Corrosion Proof case.*

Response 6: The table referenced below shows the asbestos-containing products that EPA attempted to ban by regulation in 1989 and the restrictions that remain in place after that regulation was overturned in large part. Note: The definition of "Asbestos-containing product" referenced in the Asbestos Ban and Phaseout Rule means any product to which asbestos was deliberately added in any concentration or which contains more than 1% asbestos by weight.

Uses that Remain Banned	Would be Banned But Remanded in 1991	Products not banned
new uses (Note: a new use is a use that was initiated for the first time after August 25, 1989)	asbestos-cement corrugated sheet	acetylene cylinders
flooring felt	asbestos-cement flat sheet	arc chutes
commercial paper	asbestos-cement pipe	asbestos diaphragms
corrugated paper	asbestos-cement shingle	battery separators
roll board	asbestos clothing	high-grade electrical paper
specialty paper	pipeline wrap	missile liners
	roofing felt	packings
	roof coatings	reinforced plastic
	non-roof coatings	sealant tape
	vinyl/asbestos floor tile	specialty industrial gaskets
	automatic transmission components	textile products
	clutch facings	
	disc brake pads	
	drum brake linings	
	brake blocks	
	commercial and industrial asbestos friction products	
	sheet and beater-add gaskets (except specialty industrial)	
	millboard	

Questions and Responses from the Honorable Joe Barton to James P. Gulliford:

Question 1: *There has been much discussion about the EPA Superfund Office Memo. Besides the discussion of the 1 percent level, this memo states that: EPA wants its cleanups using this figure, to employ risk-based, site specific determinations of whether to remediate beyond 1 percent asbestos by weight. The memo clearly says that it is not a blanket call for all sites to engage in this practice. In addition, the memo invites interested parties to question and object to the substance of the memo and its appropriateness. Since the EPA memo is arguing that a risk-based, site specific approach is appropriate, is it advisable to make TSCA use arbitrary, statutory targets?*

Response 1: The August 10, 2004 memo from Michael Cook, then Director of the Office of Superfund Remediation and Technology Innovation, titled, "Clarifying Cleanup Goals and Identification of New Assessment Tools for Evaluating Asbestos at Superfund Cleanups," had two purposes: first, "to clarify that Regions should develop risk-based site-specific action levels to determine if response actions should be taken when materials containing less that 1 percent asbestos . . . are found on a site" and second, to outline some activities underway to assist in evaluation of risks at sites.

The chief purpose of the Asbestos Hazard Emergency Response Act (AHERA), or Title II of TSCA, which was passed by Congress in 1986, was to establish regulations to safely manage asbestos hazards in U.S. schools. In AHERA, Congress defined asbestos-containing material as "any material which contains more than 1 percent asbestos by weight

The difference in approach (between the Superfund memo and AHERA) can be attributed to the difference in purposes behind site cleanups, where substantial variation in sites and situations may exist, and regulation of asbestos-containing materials in schools, where there is a need for clear and consistent standards for purposes of hazard identification, compliance and enforcement.

Question 2: *You touched briefly, during the question period, about chlor-alkali facilities that use asbestos diaphragm technology. I have one question and one comment to which I would like to hear your reaction. First, are all chlor-alkali facilities which use asbestos diaphragms and operate in the United States using the same exact products and processes? Second, as it has been related to me, the European Union has just completed a comprehensive review of its exemption for use of asbestos diaphragms in the chlor-alkali industry and determined that the exemption should continue indefinitely. According to the European Commission, as part of that review process the EU reviewed extensive information which indicated that:*

- *In many cases substitute materials were not feasible for existing facilities and all situations;*
- *Conversion to high-voltage asbestos-free operation would not be economically viable; and*

- *There is no risk to workers from the use of asbestos diaphragms in these installations.*

What is your reaction to these facts?

Response 2: EPA has not conducted an analysis of chlor-alkali facilities in the United States (or elsewhere) using asbestos diaphragms. However, according to the Chlorine Institute:

> "The chlor-alkali facilities which use asbestos diaphragms do not use the same products and processes. Preparation of the asbestos diaphragm for these plants is more of an art than a science. While the diaphragms may look similar, they all do not have the exact same composition. The percentage of asbestos in the diaphragm may vary as can the thickness of the diaphragm. There may be other materials in the diaphragm which can vary by facility. The Chlorine Institute does not have any further information concerning any of these details.
>
> The chlor-alkali processes employing the asbestos diaphragms are all different. A review of the attached Table 1 provided by the Chlorine Institute shows a variety of diaphragm cell types (e.g., OxyTech H2A, OxyTech H4, Glanor 1144). The type of cell and the amount of current utilized at the facility affect the amount of chlorine and co-products produced. This design, as well as other factors, such as the current density has a significant effect in evaluating the feasibility of replacing the asbestos diaphragm with a non-asbestos diaphragm or with membrane cell technology. These are factors that each individual facility must evaluate."

In the past, EPA acknowledged the rationale for an exemption for these facilities and recognizes that other countries have exempted chlor-alkali facilities from asbestos regulations. In the 1989 Asbestos Ban and Phase-out rule, EPA stated that a ban would not be appropriate for this product category for a number of reasons, including lack of substitutes, and the high cost and relatively minimal benefits of banning this product.

Question and Responses from the Honorable John Shadegg to James P. Gulliford

Question 1: *Are you familiar with California ARB-435? Last year, Melanie Marty, with the California Air Resources Board testified before the Senate about the difficulties of assessing risk from exposure to naturally-occurring asbestos present in the soil. Is it not true that this protocol is currently being revisited because of widespread inconsistencies among laboratories as to how the counting protocols are to be applied? Do you think it is wise then for the Committee Print's statutory exception for aggregates to use California's legally allowable level for asbestos if the state admits on the record that it is having trouble with it?*

Response 1: In 2007, the California Air Resources Board (CARB) conducted an interlaboratory study to compare the results from different laboratories following the CARB 435 protocol. All of the labs analyzed the same samples of asbestos-containing soils, although each used somewhat different techniques based upon their own interpretation of the protocol. The interlaboratory study demonstrated significant laboratory-to-laboratory variations in reported asbestos concentrations from the same samples. Much of the variation appeared due to different sample preparation techniques (e.g., grinding, milling, sieving) employed by the laboratories, as each lab prepared the samples using a different technique. Samples from labs using more robust grinding techniques tended to have lower reported asbestos concentrations. Some of the interlaboratory variation also appeared to be due to inconsistencies between the laboratories in identifying which structures to count as asbestos. This is a well-recognized issue in asbestos analysis.

The CARB 435 is currently being revised, based on the findings of the interlaboratory study. CARB has informed EPA it plans in 2009 to "tighten" both the procedures for sample preparation and the rules for identifying which structures are to be counted as asbestos. CARB expects that the revisions will "significantly decrease the variability among the laboratories performing [Method] 435 asbestos analyses."

It is EPA's understanding that since 1990, the CARB has relied upon the current CARB 435 method to enforce its Airborne Toxics Control Measures, which regulate the asbestos content of surfacing materials to less than/equal to 0.25 percent and require dust control measures for construction, grading, quarrying and surface mining operations in areas containing greater than/equal to 0.25 percent asbestos. CARB 435 is also currently used by California's Department of Toxic Substance Control's schools program to determine the asbestos content of soils at new school construction sites.

Question 2: *One of our witnesses, Dr. Nolan, testified that chrysotile asbestos is not as lethal as amphibole. Can EPA say with certainty that its science unequivocally shows that chrysotile and amphibole are equally as toxic?*

Response 2: Given the evolving state of the science, EPA is unable to make "unequivocal" statements about the relative toxicity of chrysotile and amphibole asbestos. However, EPA currently is engaged in research intended to help reduce the uncertainties surrounding the toxicity of different types of asbestos.

Question 3: *Does the Department of Defense support the exemptions given them under S. 742? Does the Department of Defense support the language in the House Committee Print? Why or why not?*

Response 3: Yes, the Department of Defense supports the exemptions given them under S. 742.

The Department of Defense supports the process contained in S. 742 that provides an exemption for use of asbestos containing material necessary to the critical functions of the Department. The Department also supports the similar exemption process in the House proposed legislation. Both lay out a process that balances the need for the Department for use of products containing asbestos with protection of human health and the environment.

Question 4: *Can EPA say with certainty how many asbestos containing products, as fully defined under the House Committee Print, exist in the United States: Of this number, does EPA know how many of these producers will seek exemptions from the ban proposed under the Committee Print? Does EPA have enough resources (i.e. staff and funding) to process and review these exemptions and to further carry out the new, regular, and continual reviews of all these exemptions?*

Response 4: EPA cannot state with certainty the number of asbestos-containing products, as defined in the Committee Print, that may exist in the U.S. The 1989 Asbestos Ban and Phaseout Rule identified a broad range of product categories where asbestos had been found to be in use at that time. Production and importation of asbestos have declined over recent years, which suggest that use of asbestos in products may also have declined. At this time, EPA cannot speculate as to the number of exemptions that might potentially be requested under the Committee Print. Depending on the structure of the potential exemption process – primarily whether the burden for demonstrating the necessity of the exemption or lack thereof resides with the petitioner or with EPA – the Agency would likely need to redirect resources to manage these petitions in a timely manner.

Question 5: *In your hearing testimony, you indicate that language contained in the House Committee Print which states that an asbestos-containing product is one which bans products where asbestos is "otherwise present in any concentration" does not necessarily set a zero percent standard for the presence of asbestos. Please explain your belief that, under this language, EPA is permitted to set a standard other than zero percent.*

Response 5: The point that EPA was attempting to make with the statement in question is that as a result of both ambient background concentrations of asbestos and the current technological limits of detection, it may very well be difficult in practice to impose a zero percent standard. In light of this, EPA respectfully suggests that the Committee might want to consider incorporating a "de minimus" standard. into the definition of asbestos-containing product. For example, the OSHA hazard communication standard for carcinogens is 0.1 percent as a "de minimus" standard, Asbestos science and measurement capabilities have improved over time, and will likely continue to do so as more is learned from continuing research. Accordingly, the legislation could provide EPA with the authority to periodically review and, if necessary, modify any such de minimus standard.

Question 6: *Does the EPA stand behind the definition of "asbestos" relevant to the aggregate industry contained in the "Test Method for the Determination of Asbestos in Bulk Building Materials", which defines asbestiform minerals as those that are crystallized with the habit of asbestos, and, under a light microscope, have (a) mean aspect ratios ranging from 20:1 to 100:1 or higher for fibers longer than 5 μm; (b) very thin fibrils, usually less than 0.5 micrometers in width; and two or more of the following: (i) parallel fibers occurring in bundles; (ii) fiber bundles displaying splayed ends; (iii) matted masses of individual fibers: and/or (iv) fibers showing curvature.*

Response 6: In accordance with the Asbestos Hazard Emergency Response Act (AHERA), EPA developed the "Test Method for the Determination of Asbestos in Bulk Building Materials" for the types of products found in buildings where potential exposure could occur during and after asbestos abatement. While it is possible that some of the criteria in this method could be applied to aggregate industry materials, uses, and potential exposures, EPA would need to make a detailed evaluation of aggregate industry products and uses to determine how potentially exposed populations and asbestos release rates might differ from the exposures and releases arising from building abatement undertaken in accordance with AHERA.

In addressing asbestos releases from asbestos-containing material, EPA has recently been evaluating the use of activity- based sampling to simulate population exposures. EPA expects to continue to try to determine the most accurate way to protect potentially exposed populations from the hazards of asbestos.

Question 7: *Please describe how asbestos is regulated in other countries in which it has been "banned" – including exemptions.*

Response 7: Many developed countries have banned the use of asbestos in products. However, most of these countries provide for some exemptions. For example, in the European Community, Member States may exempt diaphragms for existing electrolysis installations until they reach the end of their service life, or until suitable asbestos-free substitutes become available, whichever is sooner. Australia, as another example, has an asbestos ban which makes it illegal to manufacture, supply, use, reuse, store or sell any products containing asbestos, including automotive brake pads and gaskets. The ban exempts uses for research and analysis, removal, handling, and disposal, and in cases where asbestos is found during non-asbestos mining.

Questions and Responses from the Honorable John D. Dingell to Dr. Christopher Weis

Question 1: *During your testimony at the February 28, 2008, hearing, you stated that the United States government, the Canadian government, academic institutions, and industry have all conducted studies on exposures to low levels of asbestos. You stated that these studies show that low levels of asbestos can generate exposures of concern. Please provide the Subcommittee with a list of citations to such studies. Please include the name, authors(s), and date of the study. Please also summarize the finding from two or three of the leading studies.*

Response 1: There have been a number of independently conducted studies regarding exposures to asbestos generated by disturbance of materials and soils containing various amounts of asbestos. The available investigations which provide information on airborne exposures due to the disturbance of asbestos contaminated media include studies sponsored by the United States and Canadian governments, industry, and academic institutions.

a) Release of Dispersed Asbestos Fibres from Soils (1988), Addison, J., Davies, L., Rovertson, A., Willey, R., Report No. TM/88/14 UDC 553.676:614.7

In this study, artificial mixtures of soil and asbestos were prepared using three different soil types with each of three asbestos types in concentrations of 1%, 0.1%, 0.01% and 0.001%. The results showed that "airborne fibre [sic] concentrations could be very high (>20 fibers/milliliter (f/mL)) and even at 0.001% of asbestos in a dry loose mixture was capable of producing airborne respirable asbestos concentration in excess of the clearance limit." The authors conclude that "[e]ven small proportions of asbestos in loose, dry soil can give rise to high airborne asbestos concentrations when these materials are worked."

b) Analysis of Fiber Release From Certain Asbestos Products (1982). GCA Corporation Technology Division. Prepared for U.S. Environmental Protection Agency Office of Pesticides and Toxic Substances Chemical Control Division. Parts 1 and 2. Contract No. 68-01-5960 December 1982.

> *20 different asbestos-containing products representing 6 different product categories were tested by contract resources funded by the U.S. Environmental Protection Agency. While most of the products tested in this study contained asbestos at concentrations higher than 1%, the authors concluded that "fiber release into the ambient air is governed by the presence or absence of control equipment or recommended work practices and their effectiveness in minimizing fiber release at the point of contact during mechanical disruption" (page 121)*

c) Site Assessment Vermiculite Removal Building E-12 C.F.B. Shilo, Shilo Manitoba (1997). Prepared for: Department of National Defense Base Construction Engineering

Canadian Forces Base Shilo, Shilo, Manitoba R0K-2A0. Pinchon Project No. W7500. April 3, 1997.

> *Polarized Light Microscopy analysis of this material in the bulk phase consistently indicated a trace of actinolite/tremolite asbestos, generally less than 0.1%. Airborne asbestos concentrations were measured and confirmed by Transmission Electron Microscope analysis which showed asbestos concentrations to be as high as 174 f/mL.*

d) Evaluation of Risks Posed to Residents and Visitors of Diamond XX Who are Exposed to Airborne Asbestos Derived from Serpentine Covered Roadways. Final Prepared by ICF Technology, Inc. for The U.S. Environmental Protection Agency Region 9. May 24, 1994

> *This investigation, contracted by EPA in 1994 indicated the likelihood of elevated airborne asbestos concentrations as a result of vehicular traffic along roadways constructed of crushed serpentine rock. The results of the EPA investigation presents risks associated with traffic along roadways containing 0.006 weight percent asbestos.*

Question 2: *During your testimony at the February 28, 2008, hearing, you stated that you agreed with Dr. Aubrey Miller's testimony that studies have been done on chrysotile asbestos and diseases caused by exposure to chrysotile asbestos. Please provide the Subcommittee with a list of such studies. Please include the title, author(s) and date of each study.*

Response 2: The requested information is attached in appendix 1. References supporting EPA's assessment of chrysotile toxicity are also available in the EPA's Integrated Risk Information System database at http://www.epa.gov/ncea/iris/subst/0371.htm#evid.

Question 3: *During your testimony at the February 28, 2008, hearing, you stated that the United States Environmental Protection Agency (EPA) is currently working on a new testing method for measuring asbestos releases from contaminated soils or solids. Could you please describe that test method? How is it different from other methods of testing for asbestos? What is the current status of EPA's work on this test method?*

Response 3: In collaboration with the U.S. Department of Energy, Idaho National Laboratory (INL), EPA has been developing a more sensitive test method for asbestos in bulk media using fluidized bed technology. While EPA believes that the technique requires additional validation and peer review, results reported to EPA by the INL indicate that the fluidized bed was able to segregate [asbestos] structures in samples containing asbestos at levels well below 0.5%.[3] This methodology has been piloted at the

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[3] Fluidized Bed Asbestos Sampler Design and Testing. Karen Wright and Barry O'brien, (December 2007), Idaho National Laboratory, Idaho Falls, Idaho 83415. Prepared for Office of Research and Development -National Exposure

Atlas Coalinga Superfund site, will soon be piloted by EPA at the Superfund site in Libby, MT and represents a promising approach to advancing asbestos analysis of bulk materials.

Question 4: *Would you agree that the one-percent threshold for regulation that was used by the Senate as the standard for the asbestos prohibition in S. 742 was established on the basis of analytical ability in 1973 and does not reflect current science?*

Response 4: At the time the original asbestos NESHAP was promulgated (April 6, 1973), a standardized reference method had not been developed to determine quantitatively the content of asbestos in a material. The November 20, 1990 revision of the asbestos NESHAP finally specified that Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM method) be used to determine whether or not a material contains greater that one percent asbestos.[4]

The one percent threshold is used to define thermal system insulation as indicated in the Federal Register at 29CFR 1910.1001(b). The applicability for bulk asbestos method 9002 developed by the National Institutes of Occupational Safety and Health (NIOSH) indicates that the method ***"is useful for the qualitative identification of asbestos and the semi-quantitative determination of asbestos content of bulk samples. The method measures percent asbestos as perceived by the analyst in comparison to standard area projections, photos, and drawings, or trained experience. The method is not applicable to samples containing large amounts of fine fibers below the resolution of the light microscope***"

It is important (as stated in the NIOSH Method 9002[5]) that the PLM method was not applicable to samples containing fibers below the resolution of the light microscope. In these situations, bulk materials can generate airborne asbestos concentrations far exceeding regulatory limits and posing considerable health risks for both occupational and environmental exposures. For such situations, both OSHA and EPA have employed personal monitoring to estimate actual airborne breathing concentrations relevant and useful for risk estimation. In their response to comments on the final rule[6] in 1987, EPA indicated that new developments in technology may lead EPA to reconsider the analytical techniques employed for bulk asbestos analysis. In the spirit of moving forward on improving characterization of asbestos exposure, EPA has recently finalized a framework for investigating asbestos-contaminated sites.[7] The EPA Asbestos Framework establishes methodologies for assessment of contaminated sites.

Research Laboratory-Environmental Sciences Division, U.S. Environmental Protection Agency, Las Vegas, NV and the U.S. Department of Energy under DOE Idaho Operations Office Contract DE-AC07-05ID14517.

[4] http://www.epa.gov/EPA-AIR/1995/December/Day-19/pr-312.html

[5] This method is similar to the EPA method: Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116).

[6] Federal Register Vol 52. No. 210. Friday October 30, 1987 pp 41837.

[7] Framework for Investigating Asbestos-Contaminated Superfund Sites OSWER Directive #9200.0-68 September 2008.

Question 5: *Is the one-percent threshold or cut-off level that was used by the Senate as the standard for the prohibition in S. 742 protective of public health? If not, please explain why not.*

Response 5: As indicated in the response to Question 1, studies have shown that, certain soils, bulk materials, or rocks contaminated with low levels (far less than 1%) of asbestos can release high (greater than occupational exposure limits) concentrations of fibers into the air when disturbed. Whether or not such conditions exist may be difficult or impossible to determine using PLM analytical techniques. High airborne fiber concentrations pose a human health hazard and my exceed public health risk thresholds under certain exposure conditions. These conditions depend upon, 1) the concentration of asbestos in air and, 2) the duration of the human exposure.

As indicated in the response to question 3, EPA is involved with the development of analytical techniques that are designed to determine concentrations of asbestos in bulk material at levels well below 1%. These analytical techniques, when finalized will have the added advantage of determining whether asbestos fibers in the bulk material of interest are releasable to air.

Question 6: *Would you agree that to improve the Senate legislation and thereby better protect the public health and the environment from hazards associated with asbestos, the asbestos ban should target any products in which asbestos is intentionally added or present as a contaminant?*

Response 6: Addition of friable asbestos to products that may release fibers to the air should be avoided if possible.

Questions and Responses from the Honorable John Shadegg to Dr. Christopher Weis

Question 1: *In your comments, you discuss a sampling methodology EPA is developing related to aggregate materials. Please provide a time frame in which EPA's "rapid technique for disturbing materials, sending them into the air, and measuring them" for asbestos will be available, and support for the notion that any such testing can be performed in a quarry or similar environment, as would be required to implement the testing in the aggregate industry.*

Response 1: In collaboration with the U.S. Department of Energy, Idaho National Laboratory (INL), EPA has been developing a more sensitive test method for asbestos in bulk media using fluidized bed technology. While EPA believes that the technique requires additional validation and peer review, results reported to EPA by the INL indicate that "the fluidized bed was able to segregate [asbestos] structures in samples containing asbestos at levels well below 0.5%."[8] This methodology has been piloted at

[8] Fluidized Bed Asbestos Sampler Design and Testing. Karen Wright and Barry O'brien, (December 2007), Idaho National Laboratory, Idaho Falls, Idaho 83415. Prepared for Office of Research and Development -National Exposure

the Atlas Coalinga Superfund Site, and will soon be piloted at the Superfund Site in Libby, MT and represents a promising approach to advancing asbestos analysis of bulk materials.

While possible, it is not necessary to perform the analysis in a quarry environment. Like most environmental monitoring (including present asbestos monitoring), samples are collected at the location of interest and shipped to a laboratory for preparation and analysis.

Question 2: *I thought I understood your comments to indicate that measurements of asbestos fibers are "subjective". Please explain.*

Response 2: As indicated by NIOSH concerning the standard PLM procedure (NIOSH 9002) for measuring asbestos in bulk materials the "***method is useful for the qualitative identification of asbestos and the semi-quantitative determination of asbestos content of bulk samples. The method measures percent asbestos as perceived by the analyst in comparison to standard area projections, photos, and drawings, or trained experience. The method is not applicable to samples containing large amounts of fine fibers below the resolution of the light microscope.***"

Research Laboratory-Environmental Sciences Division, U.S. Environmental Protection Agency, Las Vegas, NV and the U.S. Department of Energy under DOE Idaho Operations Office Contract DE-AC07-05ID14517.

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